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HASELTINE LAKE & CO. Hazlitt House 28
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London, WC2A 1AT(GB)**(54) **Multipoint connected communication system having function of retraining modems provided therein and method of retraining the modems.**

(57) A communication system in which a plurality of multipoint connected satellite stations are connected via a down line and an up line to a master station. Each of the satellite stations monitors presence or absence of occurrence of an abnormality in the down line, judges whether the abnormality is present or not and, where the abnormality is present, informs the master station of the nature of the abnormality via the up line. In turn, the master station monitors presence or absence of an alarm indicating abnormality from each of the satellite stations, judges whether the alarm is detected or not and, where the alarm is detected, reads past record information concerning abnormality detection in the satellite station concerned and information on retraining execution time, then judges whether the down line is normal or not and, where the down line is normal, sends a training signal again to the down line to retrain a MODEM corresponding to the satellite station concerned. Accordingly, it is possible to quickly restore demodulation processing by each of the satellite stations to a respective normal status after a recovery of trouble in a down line.

Fig. 8A

Fig. 8

Fig. 8A

Fig. 8B

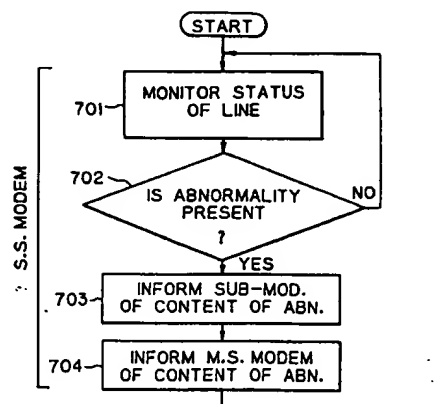
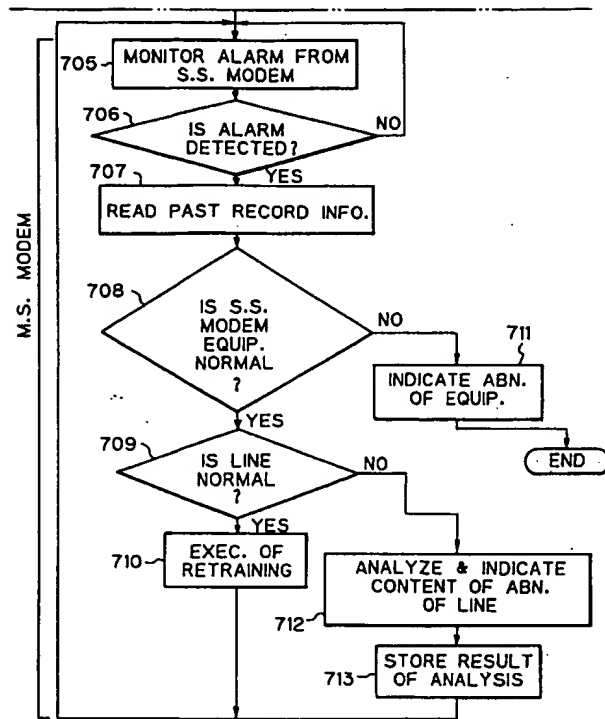
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Fig. 8B





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EUROPEAN SEARCH REPORT

Application Number

EP 90 30 7946

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	DE-A-2 824 578 (MILGO ELECTRONIC) * Claims 1,2,5,8,14,15,18,20,22,26,28,33,35; page 12, line 18 - page 13, line 32; page 17, lines 3-11; page 17, lines 25-32; page 19, line 29 - page 20, line 28; page 22, lines 1-9; page 25, line 30 - page 26, line 1; page 29, line 26 - page 31, line 23; page 32, line 28 - page 34, line 6; figures 1,2 *	1-9	H 04 L 1/24 H 04 L 1/20 H 04 L 12/26
Y	DE-A-2 532 414 (MILGO ELECTRONIC) * Page 4, lines 8-12; page 6, lines 1-29; page 10, lines 18-28; page 31, line 28 - page 32, line 4; page 43, line 6 - page 46, line 17; page 55, line 22 - page 54, line 13; claims 1,2,8,9,13,15-18 *	1-9	
Y	IEEE NATIONAL TELECOMMUNICATIONS CONFERENCE NTC'76, Dallas, Texas, 29th November - 1st December 1976, pages 50.1-1 - 50.1-4, New York, US; G.D. FORNEY, Jr. et al.: "Multipoint networks: Advances in modem design and control" * Abstract; page 50.1-2, left-hand column, line 60 - page 50.1-2, right-hand column, line 10; page 50.1-3, right-hand column, lines 33-37 *	1,7-9	
A	IDEM	4	TECHNICAL FIELDS SEARCHED (Int. Cl.5) H 04 L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 16 October 91	Examiner GRIES T.M.
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document			